

Response
Serial No. 09/982,964
Attorney Docket No. 011361

AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings include changes to Figs. 14B and 14C. Specifically, both figures are designated "Prior Art."

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REMARKS

Claims 3-5, 7-10 and 12 are pending. Claims 1-2, 6 and 11 are cancelled herein without prejudice. Claims 3, 5, and 8-10 have been amended herein. Support for the amendment to claim 3 is found at page 12, lines 1-10, page 13, lines 5-8 and Figure 3 of the application. Amended claim 5 incorporates elements of original claim 6. Claims 8 and 9 have been amended to more accurately claim the intended invention by restructuring the language of the original claims to language in accordance with U.S. Patent law and custom. Claim 10 has been amended to incorporate the features of original claim 11 and descriptions as set forth at page 30-38 and Figures 11-13 of the application.

Specification

The abstract is objected to because of grammatical errors and awkward construction that render it unclear. In response thereto, applicants enclose a substitute abstract, which corrects all errors and has a clear construction. Wherefore, applicants respectfully request removal of the objection.

Drawings

The Examiner states that Figs. 14B and 14C should be designated as "Prior Art." Applicants have attended to these drawing corrections, as the Examiner suggests. Wherefore, applicants respectfully request removal of the rejection.

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Claim Objections

Claims 1-3 and 10 are objected to for minor informalities. Applicants have cancelled claims 1 and 2 and amended claims 3 and 10 as the Examiner suggests. Wherefore, applicants respectfully request removal of the objections.

Applicants' Response to the Rejections under 35 U.S.C. §112

Claims 8 and 9 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants claim as the invention. In response thereto applicants have amended claims 8 and 9 to more distinctly claim the subject matter of the invention. The claims have been edited to utilize language customary to U.S. Patent law and practice.

Applicants respectfully submit that in light of these amendments the claims are now definite and distinct within the meaning of 35 U.S.C. §112, second paragraph. Wherefore, favorable reconsideration is requested.

Claims 10-12 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Office Action requires only correction of antecedent basis. Applicants have attended to these amendments as the Office Action suggests.

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Applicants' Response to the Rejections under 35 U.S.C. §102

Claims 1, 2 and 10 stand rejected under 35 U.S.C. §102(e) as being anticipated by *Adourian et al.* Applicants have cancelled claims 1 and 2 herein. Wherefore, applicants submit that the rejection thereto is now moot.

In regards to claim 10, Applicants have amended the claim by incorporating the features of claim 11, i.e. “an electrophoretic-medium sucking mechanism for removing an electrophoretic medium contained in the reservoirs and a buffer-liquid injecting mechanism for injecting a buffer liquid into the reservoirs after the electrophoretic medium is removed therefrom”, and further the feature of a buffering-liquid injecting mechanism injecting a buffer liquid simultaneously into the reservoirs. The reservoirs can be filled with a buffer liquid simultaneously by these features, thus mitigating the influence of a water head difference as disclosed on page 38, lines 26-28 in the specification. Applicants respectfully submit that these limitations are not disclosed in *Adoulain et al.* and *Menchen et al.* Wherefore favorable reconsideration is respectfully requested.

Applicants' Response to the Rejections under 35 U.S.C. §103

Claims 3 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Adourian et al.* in view of *Smith et al.* In response thereto applicants have amended claims 3 and 5 in order to more distinctly claim the subject matter regarded as the invention. Applicants have amended claim 3 by adding the elements “electrophoretic-member holding part”, “temperature regulation mechanism” and “electrophoretic chamber lid”. Applicants have also added the feature that the detecting part is placed above the electrophoretic chamber lid, i.e. the

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electrophoretic-member holding part, while the temperature regulation mechanism is provided on the back surface of the electrophoretic-member holding part.

As a result of having these elements and features, the temperature of the electrophoretic member can be regulated accurately at a predetermined temperature (page 14, lines 10-15 of the specification), resulting in the ability to obtain accurate electrophoretic patterns by suppressing the fluctuation of migration speed due to temperature fluctuation. The accurate electrophoretic patterns lead to an increase in the accuracy of the base sequenced determination.

Adourian et al. discloses a heating element 142, a detection assembly 106 and an upper housing member 124 in Figs. 6 and 7. However, both the heating element 142 and the detection assembly 106 are placed at the back side of a microchip 120. The heating element 142 has a slot 140 to allow light to pass through the microchip 120 to reach the detection assembly 106. Hence, it is difficult to uniformly heat the microchip 120 by the heating element 142 because its heating area is separated by the slot 140.

Therefore, applicants respectfully submit the combination of *Adourian et al.* and *Smith et al.* does not teach the limitations of amended claim 3.

Applicants have changed claim 5 to independent form, added the feature that the specimen-injection monitor mechanism is installed separately from the detecting part (see Fig. 5), and incorporated the features of claim 6, that is, the specimen-injection monitor mechanism and the detecting mechanism are each provided with a fluorescent-light detecting optical system, and they share a common excitation light source in use.

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As a result of the specimen-injection monitor mechanism being installed separately from the detecting part, the detecting part can accurately detect specimens, which migrate in the passages, while monitoring the specimen-injection result.

Birnbaum et al. discloses a fluorescence detecting apparatus irradiating the whole or large parts of the capillary and detecting the fluorescence originating from the sample components, thereby performing both detecting the specimens separated along the capillary and monitoring the specimen-injection result. This detection method has low detection sensitivity and is structurally different from the presently claimed detecting part. Therefore, applicants respectfully submit the combination of *Adourian et al.*, *Smith et al.* and *Birnbaum et al.* does not teach or suggest the present invention of amended claim 5.

Claims 8 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Adourian et al.* and *Smith et al.* as applied above, and further in view of *Uchigaki et al.* Applicants respectfully submit that as claim 5 is distinguished above, claims 8 and 9 are likewise distinguished by nature of their dependency to claim 5. Applicants further maintain that *Uchigaki et al.* does not disclose Applicants' claimed control steps as amended nor would the control steps be readily adaptable to *Adourian et al.* nor *Smith et al.*

Wherefore, favorable reconsideration is respectfully requested.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

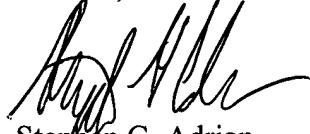
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If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Attachments: Abstract of the Disclosure
Replacement Sheet and Annotated Sheet Showing Changes



In re the Application of: **Shin NAKAMURA et al.**
U.S. Serial No.: 09/982,964
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Annotated Sheet

Fig.14A

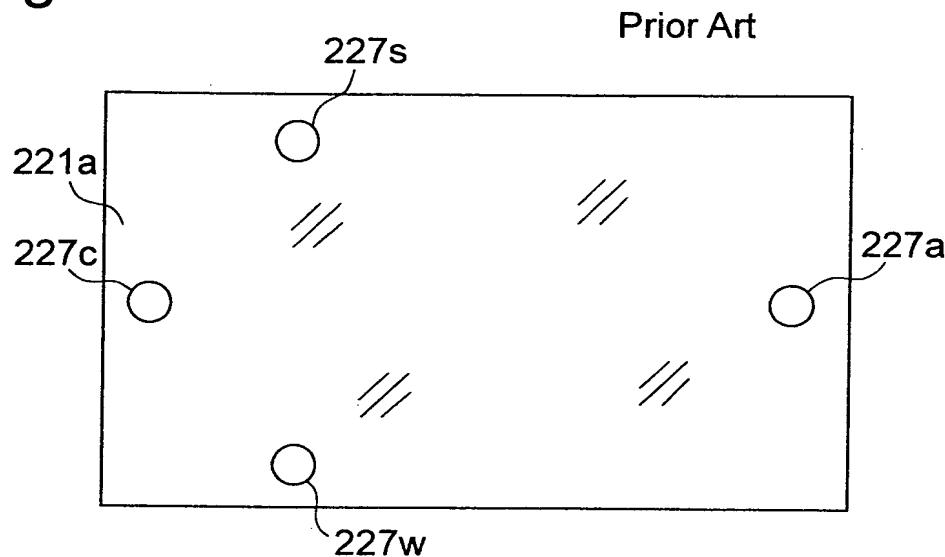


Fig.14B

PRIOR ART

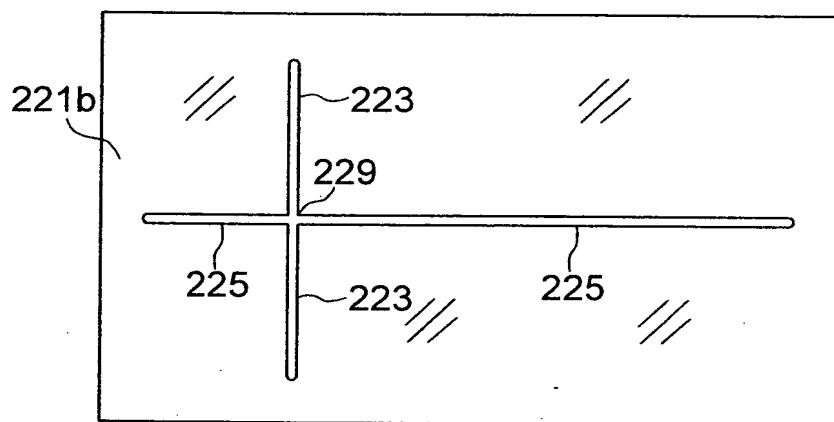


Fig.14C

PRIOR ART

